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Operations

**PARTICIPATION IN THE SPACEAF
EXERCISE PROGRAM**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction guides implementation of exercises during Joint Chief of Staff (JCS), United States Space Command (USSPACECOM), and SPACEAF sponsored and supported exercises. It establishes SPACEAF exercise requirements for designing, planning, scheduling, conducting, monitoring, participating, and evaluating exercises. It guides the planning efforts for technology insertions, concept experiments, doctrine assessments, and modeling and simulation. Furthermore, this instruction establishes procedures for keeping the senior SPACEAF leadership informed of ongoing planning, execution, and post-exercise activities. This instruction implements AFI 10-204, *Participation in the Military Exercise Program*, and AFI 10-230, *Participation in Key Exercises and Wargames*. Changes to this instruction will be coordinated with SPACEAF/A57, 747 Nebraska Avenue, Suite B302, Vandenberg AFB CA 93437-6282.

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1. The Purpose, Objectives and Planning Guidelines.

1.1. The Purpose. This instruction established the SPACEAF Exercise Program. Exercises are performance-based scenarios testing a variety of environments ranging from military operations other than war to global war. This instruction outlines SPACEAF and subordinate unit procedures during all phases of the exercise cycle.

1.2. The Objectives. To enhance the readiness and improve crisis response of the SPACEAF and subordinate units, to include theater support and space integration. Any or all of the following areas should be addressed during exercise concept development:

1.2.1. Increase Individual Proficiency. Exercise participation provides an opportunity for individuals to practice the tactics, techniques, and procedures necessary to accomplish their duties. Individuals are given every opportunity to react and apply themselves and their skills to resolve exercise situations that mimic real world expectations as closely as possible.

1.2.2. Enhance Readiness. Exercises reveal the readiness posture of SPACEAF components and identify areas for improvement. Include Air Reserve Component (ARC) mobilization to identify areas for improvement in communications and procedures necessary to bring units to their pre-deployment status. Exercise planning should address previously identified readiness vulnerabilities and further accentuate the strengths [reference the Joint Universal Lessons Learned System (JULLS)/Exercise Corrective Actions Board (ECAB) Program].

1.2.3. Boost Combat Capability. Exercise participation maximizes mission technical performance of applicable SPACEAF component space systems. When possible, incorporate newly acquired/developed systems into existing architectures and identify ways to increase combat effectiveness or current systems through the Tactics Improvement Process (TIP) process.

1.2.4. Improve System Support. Exercise participation evaluates maintenance and sustainment support. Any previously identified weaknesses should be specifically evaluated for improvements (reference the JULLS/ECAB Program).

1.3. The Planning Guidelines. The goal of the SPACEAF Exercise Program is to maximize the benefits resulting from SPACEAF unit exercise participation.

1.3.1. Relevance. SPACEAF exercises focus on USSPACECOM and HQ AFSPC missions and priorities. Exercises should ensure that units are prepared to master the full range of their contingency taskings and operations including Operation Plan(OPLAN) implementation, Crisis Action Plan (CAP) anticipated combat taskings, and non-combat contingency operations such as natural disasters, terrorist threats, etc.

1.3.2. Exercise Objective Development. Review operational, logistical, support, and force protection requirements, applicable plans, After Action Reports (AARs), lessons learned databases, corrective action reports, critique reports, inspection reports, guidance from higher headquarters,

and consult with subject matter experts and senior leaders to develop specific objectives for each exercise. Objectives should focus on executing procedures, policies, and processes to identify strengths and weaknesses in force status, unit readiness, mission capability, and personnel proficiency. Ensure exercise design, Control Staff Instructions (COSINs), artificial inputs; level and extent of player participation, and scenario events support the exercise objectives.

1.3.3. Prioritizing Exercise Support. If possible, rank priorities when scheduling resources for exercise participation according to sponsorship, following this order:

1.3.3.1. Chairman, Joint Chiefs of Staff (CJCS).

1.3.3.2. Commander in Chief (CINC), Unified Commands.

1.3.3.3. Air Force.

1.3.3.4. Other Services.

1.3.3.5. Defense Agencies.

1.3.3.6. Air Force MAJCOMs, field operating agencies (FOAs).

1.3.4. Conditions. Design, conduct, and evaluate exercises under “no-fault” conditions in order to ensure that problems are identified. Give participants the “opportunity to fail” while ensuring their safety. Do not grade individual or unit performance during exercises and do not report performance in after-action reports (AARs) or exercise analyses. Assessment of Mission Essential Tasks (MET), accomplished during the exercise, should be done independently of the AAR system. Real-world events have priority over exercise play.

1.3.5. Concurrent Inspections. Formal Inspections, such as Operational Readiness Inspections (ORIs), may be conducted during exercises to maximize available resources and operational opportunities. Organizations involved in a simultaneous exercise and ORI will consider their participation as an inspection, not an exercise.

1.3.6. Concept. Embody the “train the way we fight” concept. Plan exercises to reflect the real world. Emphasize participation and reduce artificiality (notional forces and events) to assess actual abilities and limits consistent with safety, exercise objectives, security, mission accomplishment, and other real-world constraints. Make sure logistics, support, and force protection requirements are fully integrated with operational requirements. Exercise databases should mirror actual plans, policies, and procedures and use current command, control, and communications (C3) systems.

1.3.7. Coordination. SPACEAF will support exercises as tasked by HQ AFSPC in the Consolidated Tasking Order (CTO). SPACEAF will also support exercises sponsored or supported by USSPACECOM. Additionally, when requested, SPACEAF may support a component of a unified or major command during an exercise.

1.3.8. Scheduling. Whenever possible, the SPACEAF exercise schedule will coincide with CJCS, USSPACECOM, and other major theater exercises. SPACEAF will base its exercise schedule on the USSPACECOM schedule and the HQ AFSPC Scheduling Integrated Process Team (SIPT) coordinated schedule published in the CTO. SPACEAF/A57 consolidates and prioritizes requirements for SPACEAF support and submits an exercise support schedule to COMSPACEAF for approval. Ready Tiger exercises will be scheduled to accomplish specific SPACEAF objectives not covered in other exercises. SPACEAF/A57 publishes, distributes and

maintains the approved SPACEAF exercise schedule. An annual exercise schedule will be published quarterly with other updates published as necessary.

1.3.9. Support Requirements.

1.3.9.1. Establish exercise communications-computer systems, and logistics requirements that reflect capabilities likely to exist under real-world conditions. Identify support requirements exceeding those stated in the force list, time-phased force deployment database (TPFDD), or operation plan (OPLAN), to the exercise office of primary responsibility (OPR)/sponsor.

1.3.9.2. Use exercises as an opportunity to validate and update OPLANs, base support plans (BSPs), site surveys, and information files, checklist, training materials, study guides, etc.

1.3.10. Contractor Support.

1.3.10.1. Direct contractor participation in the exercise is limited to those activities and levels of effort specified under contract. Civilian contractor personnel are required to participate in on-duty exercises to the extent required by the statement-of-work (SOW) or contract. If an exercise event could result in a potential contractor claim for additional costs, withhold all action and notify an exercise controller immediately.

1.3.10.2. If exercise events will require contractor personnel to participate during non-duty hours, obtain permission through the unit commander, contracting officer and senior exercise controller before expending funds.

1.3.10.3. Contractor personnel should respond to all evacuation events on a non-interference basis. The unit should label contractor personnel whose evacuation will result in mission impact or a government-caused delay of contracting performance as “non-players” in an exercise.

1.3.10.4. SPACEAF will coordinate any additional contractor effort, beyond the current specified work levels, with the contracting officer at affected units in advance of each exercise.

1.3.10.5. Non-playing contractors and delivery personnel should not be prevented from entering the base facilities during an exercise. Avoid delays that may cause cost impact to the government.

1.3.10.6. Contracting personnel will take all appropriate contracting actions in response to exercise events short of expenditure of funds. Any requirements to transmit exercise information to non-playing organizations should be generated and provided to exercise controllers in lieu of actual transmissions.

1.3.11. Players. Use exercises to train all operational levels, from flight lead to wing commander, the way SPACEAF intends to fight. A combination of both experienced and inexperienced players at all levels will significantly enhance exercise effectiveness and reality. Integrate the Air Reserve Component (ARC), Air National Guard (ANG) and Department of Defense (DOD) civilians in the exercise to further the concept of total force. HQ AFSPC, ANGRG, and HQ AFRC exercise branch coordination is required when ARC participation is anticipated.

1.3.12. Starting Conditions and Assumptions. Exercise starting condition and assumptions must be clearly explained and understood by all participants to facilitate appropriate and timely response to the scenario. Starting conditions should be developed in sufficient detail to allow par-

ticipants to execute appropriate actions without requiring excessive intervention by exercise controllers.

1.3.13. Risk Management. Exercise planners and controllers must make every effort to reduce possible exercise impacts to real world operations. Where exercise activities must include or interfere with real world operations, prudent steps must be taken to mitigate the risk of adverse impacts. Additionally, planners must ensure that all activities and aspects of the exercise have been analyzed to expose various hazards.

2. Responsibilities.

2.1. COMSPACEAF (14AF/CC).

2.1.1. Leads SPACEAF staff and subordinate unit participation during level one (SPACEAF and subordinate wings and units) and level two (SPACEAF only) exercises.

2.1.2. Approves the SPACEAF exercise schedule based on USSPACECOM, SPACEAF, and theater requirements as coordinated through the Scheduling Integrated Process Team (SIPT).

2.1.3. Establish and provide Joint Mission Essential Task Lists (JMETLs) to USSPACE.

2.2. SPACEAF Exercise Branch (SPACEAF/A57).

2.2.1. Manages the SPACEAF exercise program.

2.2.2. Coordinates exercise actions with USSPACECOM, HQ AFSPC, wings, and other external agencies conducting or participating in exercises as required.

2.2.3. Represents SPACEAF at USSPACECOM exercise coordination meetings.

2.2.4. Attends planning conferences for level one and two exercises. Coordinates planning conference participation for level three exercises (614 SOPS supporting theater objectives) with subordinate units to ensure appropriate representation.

2.2.5. Develops and distributes the SPACEAF exercise schedule.

2.2.6. Coordinates development of the SPACEAF Joint Training Plan (JTP) which includes SPACEAF training objectives for level one and two exercises.

2.2.7. Identifies and trains trusted agents and controllers to support all three phases of the exercise cycle (see paragraph 4.).

2.2.8. Develops exercise scripts and scenarios to support SPACEAF and HHQ training objectives.

2.2.9. Provides the wing commanders, ANGRC/DOX, NGB/DOI and HQ AFRC written notification of exercise specific support requirements at least 180 days prior to any exercise. When SPACEAF does not have 180 days notice of an upcoming exercise, notification will be made as soon as possible.

2.2.10. Coordinates TDY, deployment, and workday funding for ARC with HQ AFSPC, ANGRC, and HQ AFRC exercise branches when ARC participation is anticipated.

2.2.11. Provides HQ AFSPC/DOT an annual estimate of ARC exercise support workday requirements for programming purposes. The estimate should be provided prior to the beginning of the fiscal year in which the exercise participation is desired.

2.2.12. Consolidates wing and direct reporting unit After-Action Reports (AARs) IAW AFI 10-204. Forwards AARs to HQ AFSPC/DOTX and USSPACECOM/J37 as required. Serves as the SPACEAF representative in the Exercise Corrective Action Board (ECAB).

2.2.13. Hosts annual SPACEAF exercise planning conference.

2.2.14. Acts as the SPACEAF modeling and simulation focal point. Identifies modeling and simulation requirements for exercises.

2.2.15. Conducts pre- and post- exercise briefs for the SPACEAF Staff.

2.2.16. Provides representation on the HQ AFSPC SIPT. Coordinates action officer representation to the HQ AFSPC working group meetings that precede regular SIPT meetings.

2.2.17. Coordinates information for publication on the SPACEAF SIPRNET Webpage.

2.2.18. Requests other SPACEAF organizations to assist in developing, supporting, and participating in exercises as required.

2.3. SPACEAF Logistice, Plans and Exercises (SPACEAF/A4).).

2.3.1. Provides support for the generation of logistics related events and scenarios.

2.3.2. Attends exercise planning conferences to support the construction of exercise logistics scenarios as required.

2.3.3. Coordinates with trusted agents (TAs) from each organization (i.e., wing, operations group, operations support squadron, and units) to support exercise development.

2.3.4. Designates TAs and/or controllers to provide continuous coverage (24 hours per day) during the entire exercise duration.

2.3.5. Coordinates with controllers from other organizations participating in a scenario.

2.3.6. Coordinates Time Phase Force Deployment Data for all SPACEAF personnel and equipment deploying for an exercise.

2.3.7. Provides representation on the HQ AFSPC Exercise Coordination Team (ECT). Coordinates action officer representation to the HQ AFSPC working group meetings that precede regular ECT meetings.

2.4. SPACEAF Intelligence (SPACEAF/A2).

2.4.1. Provides intelligence support for the generation of exercise scenarios.

2.4.2. Attends exercise planning conferences as required to support the construction of exercise scenarios.

2.4.3. Coordinates with trusted agents (TAs) from each organization (i.e., wing, operations group, operations support squadron, and units) to support exercise development.

2.4.4. Coordinates with controllers from other organizations participating in a scenario.

2.4.5. Assists in the development and injection of scenario events requiring information derived from intelligence.

2.4.6. Coordinates with USSPACECOM/J2 and HQ AFSPC/DOI to support exercise development.

2.5. SPACEAF Communications (SPACEAF/A6).

- 2.5.1. Provides guidance for generation of exercise Information Assurance scenarios.
- 2.5.2. Attends exercise planning conferences as required to support the construction of exercise Information Assurance scenarios.
- 2.5.3. Coordinates with TAs from each organization (i.e., wing, operations group, operations support squadron, and units) to support exercise development.
- 2.5.4. Designates TAs and/or controllers to provide continuous coverage (24 hours a day) during the entire exercise duration.
- 2.5.5. Coordinates with controllers from other organizations participating in exercises.
- 2.5.6. Assists in the development and injection of information assurance scenario events.
- 2.5.7. Provides guidance to COMSPACEAF on all communications related scenario events.

2.6. Space Wings (Sws and units).

- 2.6.1. Coordinate exercise participation for wing and subordinate units. Specific duties include support during all phases of the exercise cycle (planning, executing, and evaluating).
- 2.6.2. Coordinate with TAs from each organization (i.e., wing, operations group, operations support squadron, and units) to support exercise development.
- 2.6.3. Designate TAs and/or controllers to provide continuous coverage (24 hours per day) during the entire exercise duration.
- 2.6.4. Coordinate with controller support from other organizations participating in a scenario.
- 2.6.5. **6.** Submit after-action reports IAW paragraph **6.**
- 2.6.6. Submit annual wing exercise schedule to SPACEAF/A57, updated quarterly (1 Jan, 1 Apr, 1 Jul, 1 Oct) and as changes occur.
- 2.6.7. Participate in HQ AFSPC SIPT.
- 2.6.8. Participate in JULLS/ECAB Program with AAR.

2.7. 614th Space Operations Squadron (614 SOPS).

- 2.7.1. Coordinates 614 SOPS exercise participation and support for SPACEAF sponsored and supported exercises. Specific duties include support during all phases of the exercise cycle (planning, executing, and evaluating).
- 2.7.2. Coordinates with trusted agents (TAs) from each organization (i.e., wing, operations group, operations support squadron, and units) to support exercise development.
- 2.7.3. Designates TAs and/or controllers to provide continuous coverage (24 hours per day) during the entire exercise duration.
- 2.7.4. Coordinates with controllers from other organizations participating in a scenario.
- 2.7.5. Submits AARs IAW paragraph **6.**
- 2.7.6. Supports SPACEAF/A57 posting exercise schedules and other relevant information on the SPACEAF SIPRNET Web page.

2.8. Trusted Agents/Controllers.

2.8.1. TAs are assigned from each organization and coordinate with TAs from other organizations (i.e., wing, operations group, operations support squadron, and units) to support exercise development. TAs are vital in building and presenting a quality scenario. TAs must have extensive knowledge of the systems, sites, and operational concepts they present. TAs will attend meetings and serve as the primary point-of-contact for pre-exercise activities. TAs and controllers will be trusted with exercise sensitive material (“Controller Eyes Only”) and are held accountable for its confidentiality.

2.8.2. Controllers are TAs who introduce planned scenario events during exercises. Controllers are also assigned from each organization participating in a scenario. Normally, the TAs who plan an exercise are then tasked as controllers during exercise execution.

3. THE EXERCISE LEVELS.

3.1. SPACEAF categorizes exercises into four different exercise levels.

3.2. Level One. Exercises SPACEAF and subordinate wing/units. Wing exercise planners develop and conduct base and unit level exercise events in concert with SPACEAF and higher headquarter Master Scenario Event Lists (MSELs). Level one exercises may be held in conjunction with support to other commands and CINCs.

3.3. Level Two. Exercises SPACEAF. As a minimum, wings must provide a 24-hour simulation and response cell. Wing exercise planners develop and inject exercise inputs to support SPACEAF exercise objectives. Level two exercises may be held in conjunction with support to other commands and CINCs.

3.4. Level Three. Exercises 614th Space Operations Squadron (614 SOPS) in support of theater exercise objectives. These are unit level exercises not normally involving the SPACEAF staff.

3.5. Level Four. Other exercises that do not fit the above categories (i.e., academic or “tabletop” exercises).

Table 1. SPACEAF Exercise Levels.

Level	SPACEAF	614 SOPS	Wing	Wing Response Cell
1	X	X	X	
2	X	X		X
3		X		
4	Other Support – Does not fit above categories			

4. THE EXERCISE CYCLE.

4.1. The Planning Stage. The planning phase encompasses all aspects of exercise design and development. (see [Attachment 2](#), see [Attachment 3](#)) Thorough exercise planning involves:

4.1.1. Defining the Concept. The overall exercise concept guides and focuses the planning effort. The concept determines the type (i.e., command post exercise (CPX), field training exercise (FTX), computer-assisted exercise (CAX), etc.), duration, and level of exercise play. It identifies

the major participants, systems, plans, procedures, and activities. It includes a review of results from previous exercises and real-world lessons learned.

4.1.2. Setting the Objectives. Exercise objectives are precise, action-oriented statements of the exercise goals. Previous exercise AARs, the JULLs database, critiques, publications and directives, mission requirements, operation plans (OPLANs), exercise plans (EXPLANS) and procedures, training requirements, inspection or evaluation results, mission area analyses, and current doctrine issues are all sources to consider when developing exercise objectives. Mission Essential Task Lists (METLs) will be identified in the SPACEAF JTP and reviewed annually. All training objectives should be included in the JTP and tied to appropriate exercises. Objectives should be developed from tasks on appropriate Mission Essential Task Lists (METLs). Exercise objectives may also be used to determine if previously identified deficiencies have been resolved or if the suspected deficiencies actually exist. SPACEAF exercise objectives should be feasible within the larger Joint Staff (JS) exercise concept. Resource limitations should be considered to ensure the exercise receives the greatest return for its resource expenditure. This process may be completed 12 months prior to STARTEX.

4.1.3. Designing the Exercise. In developing the Exercise Plan (EXPLAN), consider:

4.1.3.1. Required level of play for exercise participants.

4.1.3.2. Background material necessary to set the stage and conduct the exercise.

4.1.3.3. Extent to which role-playing affects usefulness of results.

4.1.3.4. Need for communications and computer systems.

4.1.3.5. Key events that must occur to ensure exercise play supports objectives (the chronological sequence of events is the Master Scenario Events List (MSEL)).

4.1.3.6. Development of implementers based on MSEL items and the timing and method of injection into exercise play.

4.1.3.7. Exercise support needed (i.e., facilities, equipment, administrative support, etc.).

4.1.3.8. Factors affecting exercise play, such as the use of exercise databases, degree of modeling and simulation (M&S), and reporting requirements.

4.1.3.9. Personnel resources available (active duty, ARC, civilian) to support the scope of operations planned. Ensure an adequate number of ARC workdays for exercise participation have been identified to AFSPC/RE.

4.1.4. Developing Control Procedures and Supporting Material. Exercise controllers need clear, detailed instructions to guide the exercise. Items to include or consider when developing control procedures:

4.1.4.1. Determine the number of controllers required. Consider exercise duration, number of MSEL items, and extent to which controllers simulate non-participants.

4.1.4.2. Address implement insertion, response to controller-player interaction, and controller response to anticipated events.

4.1.4.3. Background information necessary to assist controllers in their role as simulators.

4.1.4.4. Training or orientation necessary to prepare controllers for the exercise.

- 4.1.4.5. The Air Force Control Staff Instructions (COSINs) development normally begins 4-7 months prior to STARTEX.
- 4.1.5. Establishing Exercise Simulation Support. The Space Warfare Center can provide exercise simulation support on an “as needed” basis. SPACEAF/A57 will formally request support, as required.
- 4.1.6. Identifying Exercise Deployment Requirements. SPACEAF/A4 will review Unit Type Codes (UTCs) for deployment in support of exercises. The responsible agency will depend on the type of unit being deployed and the type exercise level. SPACEAF/A4 will coordinate source funding for deployments.
- 4.1.6.1. SPACEAF/A57 will send an exercise support requirement message to the wings, ANGR/DOX, NGB/DOI and HQ AFRC 90 days prior to STARTEX. This message will establish SPACEAF exercise objectives and identify wing support requirements.
 - 4.1.6.2. SPACEAF units will develop documents and other media to support exercise simulations if required.
 - 4.1.6.3. SPACEAF wings will provide SPACEAF/A57 a consolidated list of controllers and phone numbers.
 - 4.1.6.4. Wings forward exercise LIMFACs to SPACEAF/A5.
 - 4.1.6.5. SPACEAF/A57 will ensure TA-prepared exercise message traffic is ready for transmission.
 - 4.1.6.6. Wings will ensure that simulation media is in place and tested at participating units.
 - 4.1.6.7. SPACEAF/A57 will coordinate card inputs for all exercises in which SPACEAF participates. Wings are responsible for wing inputs.
- 4.1.7. Developing the Analysis and Data Collection Plan. SPACEAF/A57 will develop an Analysis and Data Collection Plan for level one and two exercises. SPACEAF subordinate units will develop their own Analysis and Data Collection Plans to ensure proper exercise assessment.
- 4.1.8. Developing the Player Instructions and Material (i.e., EXPLAN). Exercise players will be provided with:
- 4.1.8.1. Ground Rules. Ground rules establish general guidance for use during exercises. Participants should use the ground rules in executing exercise scenarios. Players should resolve exercise inputs using the full response by appropriate units and agencies with minimum simulation. Work exercise situations through to completion as if they were actual real-world events.
 - 4.1.8.2. Real-world Activities. Real-world activities take precedence over exercise driven events. Do not allow exercise inputs to interfere with or prevent real-world mission requirements. Do not allow exercises to compromise security.
 - 4.1.8.3. Safety. Personnel safety and real-world mission activities take precedence over all exercise events. Do not allow exercise events or individual response to jeopardize safety or real-world mission requirements.
 - 4.1.8.4. “SIM SWITCH.” The procedure for interacting with SIM SWITCH is as follows:

4.1.8.4.1. Identify yourself (“This is an exercise input. This is _____”).

4.1.8.4.2. Give the functional area, telephone number, and identity of the individual you are calling (“I’m calling the Vandenberg Air Force Base fire chief at 555-5555.”).

4.1.8.4.3. Your message (“The base archery range is on fire!”).

4.1.8.4.4. Wait for SIM SWITCH response.

4.1.8.5. Message Traffic. Players develop and provide all messages, paperwork, and other media normally associated with events. Do not up-channel hard copy exercise message reports to organizations not participating in the exercise.

4.1.8.6. Exercise Participation. Do not recall personnel from leave or temporary duty; however, complete required recall actions as necessary.

4.1.8.7. Participating Agencies. Where possible, external agencies should participate in exercises. This may include unified commands, Air Force, and Department of Defense organizations.

4.2. The Exercise Preparation Stage. During the preparation stage, the approved EXPLAN and supporting documents are distributed, and pre-exercise training is developed and conducted.

4.2.1. Document Distribution. The COSIN is marked “CONTROL EYES ONLY” and distributed exclusively to project officers, controllers and trusted agents. It should not be divulged to exercise players prior to the end of the exercise (ENDEX).

4.2.2. Two days prior to an exercise:

4.2.2.1. Controllers at all levels need to verify phone numbers and review controller procedures.

4.2.2.2. SPACEAF/A57 directs test inputs to verify procedures among controllers.

4.2.2.3. SPACEAF/A57 coordinates any last minute changes to all aspects of the exercise.

4.3. The Execution Stage. The execution stage begins at STARTEX and continues until ENDEX. Exercise controllers manage the direction, pace, and intensity of exercise play. Controllers should not be exercise players. Controllers form an Exercise Control Group (ECG) tailored to the exercise type, objectives, and participating organizations. Typical ECG functions include overseeing exercise play, monitoring MSEL inputs, and coordinating controller actions in regulating or modifying the exercise scenario.

4.3.1. Controller Procedures. Treat this section as the Control Staff Instruction (COSIN) in absence of a specific exercise instruction.

4.3.1.1. Controllers control the exercise to ensure exercise objectives are met. To effectively maintain control, controllers at all levels must be fully aware of all inputs. In all possible situations, inject inputs at the affected (unit) level and report up-channel. Controllers will operate the SIM cells when necessary.

4.3.1.2. Controllers stop events that may result in actions or situations that jeopardize personnel and equipment safety or mission operations.

4.3.1.3. Controllers wishing to inject ad hoc exercise inputs must up channel and clear the input with the senior SPACEAF controller. The senior level SPACEAF controller will gain

approval from the senior USSPACECOM controller if required.

4.3.1.4. Upon approval, the senior SPACEAF controller will down channel the approval to the requesting controller at the unit. For example, before a unit controller injects an OPSCAP change, he must request approval from the 21 SW controller, who requests approval from the SPACEAF controller. The SPACEAF controller will then request approval to the USSPACECOM senior controller. Upon approval, the controllers will reverse this process down to the unit controller. Upon approval, the unit controller will inject the input.

4.3.2. Data collectors gather exercise data according to the Data Collection Plan. Normally, the same person should not perform both data collection and controller functions. However, for small-scale exercises, controllers could also collect data. Data collectors should be informed of all changes to exercise events. Data collectors should attend all exercise briefings and observe players performing their exercise duties.

4.4. Post-Exercise Analysis Stage. The post-exercise analysis stage includes post-exercise AAR and evaluation actions. It focuses on the exercise objectives, documents exercise results, and provides feed-back to exercise players and others. Exercise analysis may range in scope from a simple AAR to a comprehensive and detailed report. Data is evaluated to determine whether or not exercise objectives have been met. If not, the analysis should identify and define deficiencies or shortcomings and provide suggestions for possible changes to existing plans, policies, procedures, and systems. If the objectives were met, the analysis should document that current plans, policies, procedures, and systems are adequate. It should also identify any successful work-arounds exercise players developed. Completing AARs and distributing exercise results are important final steps. Refer to **Paragraph 6**, Air Force After-Action Reporting System (AFAARS), for more details on post-exercise reporting requirements.

5. MASTER SCENARIO EVENT LIST (MSEL).

5.1. The MSEL is a compilation of scripted events that depict activities injected during the exercise by controllers to cause player actions. The MSEL is an exercise control document and must not be disclosed to exercise players. The pre-exercise scenario presents a chronological summary of the political, military, and economic events existing worldwide at STARTEX. The intelligence scenario is general in nature and designed to provide players with an understanding of the situation as it affects their operations during exercise play. The pre-exercise and intelligence scenarios provide the rationale for the MSEL events initiated during active play and are the means to activate plans, policies, procedures, and systems for analysis.

5.2. The exercise points of contact (POCs), or trusted agents, for each major participating agency contribute to the development of the MSEL items. Each MSEL is related to an exercise event, objective, and by definition, to tasks on the organization's Mission Essential Task List (METL).

5.3. Planned exercise events require a means to ensure accomplishment. The actual message, document, phone call script, face-to-face encounter script, or other transmission means is called an "implementer." During exercises, controllers inject implementers according to the flow in the MSEL.

5.4. MSEL Building. The production of a realistic and meaningful exercise script for level one and level two exercises requires the involvement of wing and unit personnel. SPACEAF subordinate wings and units will be tasked to develop exercise inputs to satisfy exercise objectives. SPACEAF/A57 will publish and distribute the script development timelines for level one and level two exercises

approximately 180 days prior to an exercise. Script building conferences will be scheduled as required. SPACEAF/A5 will approve all exercise scripts for level one and level two exercises. For USSPACECOM directed exercise, SPACEAF/A5 will forward approved script to USSPACECOM/J33Z for final approval. SPACEAF/A57 will distribute approved scripts to the wings who will then distribute the script to subordinate units.

5.4.1. To develop a MSEL event:

5.4.1.1. Review exercise objectives and organization's METLs.

5.4.1.2. Review EXPLAN background scenario and COSIN objectives and events matrix. The background scenario describes events leading up to the exercise. The objectives and events matrix contains critical exercise events.

5.4.1.3. Create MSEL events for objectives. The created event should bring forth a command or agency response.

5.4.1.4. Determine how to introduce the event into play. It should correspond to how the event would occur under real-world conditions. Coordinate the event with the ECG representative of the commands or agencies that it will affect.

5.4.1.5. Determine who would most logically cause or report the event. Inject implementers at the lowest organizational level participating in the exercise. The ECG member representing that command or agency becomes the injector. Ideally, the ECG member from the unit experiencing the simulated problem or noting the simulated incident should inject the implementer.

5.4.2. MSEL Format. Because of the volume and need for continuous updating, the MSEL is kept in an electronic database. Prepare MSEL events in accordance with the formatting instructions described in the current CJCS MSEL program software included in the Joint Exercise Management Program (JEMP), or any other approved MSEL software, and the user's manual, if available.

5.5. SPACEAF MSEL. SPACEAF may develop exercise scripts to support specific SPACEAF objectives during JCS and USSPACECOM exercises. SPACEAF will consolidate their script with approved wing level one and two inputs. SPACEAF/A57 will submit the script to USSPACECOM/J37 for approval.

5.6. Wing MSEL. Wings may develop exercise scripts to support specific wing objectives during JCS, USSPACECOM, and SPACEAF exercises. Wings must submit the script of all level one and level two inputs to SPACEAF 15 days prior to STARTEX for SPACEAF/A5 coordination.

5.7. Exercise Input Levels. Exercise inputs are categorized IAW AFI 10-204 and are based on four different impact levels. When assigning input levels, consider the ultimate impact of the input. For example, a fire at a missile warning site may be contained by the local agency (level four input that exercises the units ability to respond to a fire). However, if the fire destroys mission equipment degrading USSPACECOM support to a theater CINC, the input becomes a level two input.

5.7.1. Level One Inputs. Level One inputs affect two or more national agencies, departments, unified commands, or services and requires resolution or response from the Joint Staff or NCA. (Example: JTF Commander requests USCINCSpace increase GPS selective availability offset to greater than 100m.)

5.7.2. Level Two Inputs. Level two inputs affect two or more national agencies, departments, unified commands, or services and require resolution among those agencies. (Example: Satellite bus or payload degradation requires notification and possible actions by many national agencies.)

5.7.3. Level Three Inputs. Level Three inputs affect two or more Air Force agencies and require resolution at HQ USAF or below. (Example: HQ AFSPC requests support of AFMC/SMC assets.)

5.7.4. Level Four Inputs. Level Four inputs affect only MAJCOMS, and FOAs. Level four inputs can be resolved within the unit, wing, or HQ staff. (Example: Crisis Action Team relocation.)

5.8. Limiting Factors (LIMFAC). Each unit scheduled for an exercise must report limiting factors that would restrict the conduct or support of an exercise to SPACEAF/A57. Subordinate units send exercise LIMFACs as they are identified but no later than 45 days prior to STARTEX. SPACEAF consolidates subordinate unit inputs and sends a SPACEAF exercise LIMFAC report to USSPACECOM no later than 30 days prior to STARTEX.

6. AFTER-ACTION REPORTING (AAR). AAR provides procedures for documenting exercise and operations results, identifying and correcting problems, identifying trends, and disseminating results.

6.1. Evaluating.

6.1.1. SPACEAF/A57 conducts a “Hotwash” within 20 days after ENDEX to capture lessons learned and to assign action items noted during all three phases of the exercise cycle.

6.1.2. SPACEAF/A57 will track the action items to completion. During the team meetings SPACEAF/A57 will monitor the status of action items.

6.1.3. All organizations participating in an exercise should conduct their own “Hotwash” and input lessons learned into the JULLS database. After-action reports from CJCS-sponsored exercises must be forwarded to SPACEAF/A57 within 15 calendar days of exercise completion. SPACEAF/A57 will consolidate wing and direct reporting unit after-action reports and forward to HQ AFSPC/DOTX, ANGR/DOX, NGB/DOI, HQ AFRC/DO and USSPACECOM/J37 within 30 calendar days of exercise completion.

6.1.4. SPACEAF/A57 will brief COMSPACEAF on exercise results.

6.2. SPACEAF Exercise Corrective Action Board.

6.2.1. ECAB Members.

6.2.1.1. The ECAB is co-chaired by SPACEAF/A5 and SPACEAF/A4.

6.2.1.2. The ECAB Recorder is SPACEAF/A57.

6.2.1.3. All SPACEAF directorates, SWs and units are members and owners of the ECAB.

6.2.1.4. The ECAB will meet quarterly.

6.2.2. The ECAB Process.

6.2.2.1. The ECAB chairmen (SPACEAF/A5 and SPACEAF/A4) assign ownership of post-exercise action items to specific office of primary responsibility.

6.2.2.2. SPACEAF/A57 will compile and track exercise and after-action items until closure.

6.2.2.3. Action item owners will brief resolution progress to the ECAB and quarterly to COMSPACEAF. No action items should carry over to the next exercise without concurrence from the COMSPACEAF.

6.2.2.4. Final ECAB results are briefed for each exercise to COMSPACEAF.

7. AIR FORCE REMEDIAL ACTIONS PROGRAM (AFRAP).

7.1. The Air Force Remedial Actions Program provides a process for tracking and resolving significant problems identified in exercises and real-world operations. It documents the problem, establishes accountability for corrections, and monitors corrective action to conclusion and implementation.

7.2. Problems identified during the exercises will be resolved at the lowest SPACEAF level. Problems that cannot be solved at SPACEAF are submitted to HQ AFSPC ECAB for action. If the problem still cannot be resolved, then it is forwarded to HQ USAF/XOOT for action. HQ USAF/XOOT will evaluate the problem through a subject matter expert and recommend disposition. If the problem is categorized as a Remedial Action Project (RAP) it will be assigned to an OPR for monitoring corrective action. In order to fulfill CJCS after Action Reporting requirements, SPACEAF/A3 has designated HQ AFSPC/DOTX as the Executive Agent for reporting SPACEAF JULLS. With concurrence of SPACEAF/A57, the Executive Agent will forward post-exercise JULLS and AARs to USSPACECOM/J37.

7.3. Air Force RAP. An Air Force RAP is a written description of a problem in policy, doctrine, plans, procedures, material, or forces that specific actions can correct. To qualify as a RAP, the problem must normally meet at least one of the following criteria:

7.3.1. Be assigned to the Air Force as a single agency item (SAI) by the CJCS RAP Steering Group.

7.3.2. Apply to more than one Air Force MAJCOM, or FOA.

7.3.3. Require action that exceeds the authority of the originating MAJCOM, or FOA.

7.3.4. Require action involving substantive resources.

7.3.5. Affect doctrine or programming.

7.4. SPACEAF/A57 and SPACEAF/A4 are POCs for HQ AFSPC, AFRAP and USSPACECOM ECAB.

8. STAFF AND TRAINING.

8.1. Training Instructions. Exercise planners must thoroughly understand the tactics, techniques, and procedures of space systems being exercised as well as the exercise design and analysis process. Individuals who will have exercise planning as a prominent responsibility should be familiar with supporting OPLANS, AFTTP 3-1, and attend some of the following courses:

8.1.1. Air Force Wartime Planning. Contingency Wartime Planning Course (CWPC), Maxwell AFB AL.

8.1.2. Joint Doctrine Air Campaign Course (JDACC), Maxwell AFB AL.

8.1.3. Space Advance Applications Course (SAAC), Schriever AFB CO.

- 8.1.4. Joint Aerospace Command and Control Course (JAC2C), Hurlburt Field FL.
- 8.1.5. Joint Operations Planning and Execution (JOPES) courses, Ft Eustis VA.
- 8.2. SPACEAF subordinate wings and units should develop and implement their own internal training programs and procedures.
- 8.3. There is no formal HQ USAF-sponsored program that teaches exercise planners how to design, conduct, and evaluate exercises. The following resources may assist in development of exercises:

DALE ELLIOTT
Colonel, USAF
Vice Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

CJCSI 3500.01A, *Joint Training Policy of the Armed Forces of the United States*.

CJCSI 3500.02A, *Joint Training Master Plan for the Armed Forces of the United States*.

CJCSM 3500.03, *Joint Training Manual for the Armed Forces of the United States*.

Joint Exercise Management Package (JEMP) User's Manuals and online tutorials (available on the J-7/EAD SIPRNET Home Page).

Abbreviations and Acronyms

AAR—After Action Report

AFAARS—Air Force After-Action Reporting System

AFAARS—Air Force After-Action Reporting System

AFI—Air Force Instruction

AFMC—Air Force Materiel Command

AOC—Aerospace Operations Center

ARC—Air Reserve Component

CAT—Crisis Action Team

CAP—Crisis Action Plan

CAX—Computer Assisted Exercise

CINC—Commander in Chief

CJCS—Chairman, Joint Chiefs of Staff

CJCSI—Chairman, Joint Chiefs of Staff Instruction

CJCSM—Chairman, Joint Chiefs of Staff Manual

COSIN—Control Staff Instructions

CPX—Command Post Exercise

CTO—Consolidated Tasking Order

DOD—Department of Defense

DSN—Defense Switched Network

DTG—Date Time Group

EAD—Evaluation and Analysis Division

ECAB—Exercise Corrective Actions Board

ECG—Exercise Control Group

EI—Exercise Item

ENDEX—Exercise Termination

ESOHP—Environmental, Safety, and Occupational Health Plan

EXPLAN—Exercise Plan

EXSCHED—Exercise Schedule

FOA—Field Operating Agency

FTX—Field Training Exercise

FY—Fiscal Year

GCCS—Global Command and Control System

HQ—Headquarters

JCS—Joint Chiefs of Staff

JEMP—Joint Exercise Management Program

JULLS—Joint Universal Lessons Learned System

LIMFAC—Limiting Factor

M&S—Modeling and Simulation

MAJCOM—Major Command

METL—Mission Essential Task List

MSEL—Master Scenario Events List

NLT—No Later Than

O&M—Operations and Maintenance

OPLAN—Operation Plan

OPORD—Operation Order

OPR—Office of Primary Responsibility

POC—Point of Contact

RAP—Remedial Action Projects Program (JCS)

SIPRNET—SECRET Internet Protocol Router Network

SIPT—Scheduling Integrated Process Team

SOFA—Status of Forces Agreement

STARTEX—Start of Exercise

TA—Trusted Agent

TDY—Temporary Duty

TPFDD—Time Phased Force Deployment Data

UJTL—Universal Joint Task List

USAF—United States Air Force

Terms

Controller—Trusted agent who introduces planned scenario events during exercises.

Controller Eyes Only—Material restricted to controller review only.

Control Staff—Collective designation for controllers.

Control Staff Instruction (COSIN)—Instructions that govern conduct of the exercise.

Environmental, Safety, and Occupational Health Plan (ESOHP)—Document guiding implementation of environmental, safety, and occupational health standards at deployed locations. ESOHPs can be incorporated into exercise plans or stand-alone.

Implementer—Device used to introduce a problem, situation, or scenario event into the exercise.

Joint Exercise Management Program (JEMP)—A set of three computer software programs designed to generate databases for exercise support. Programs include JULLS, MSEL, and EXSCHED.

Lesson Learned—Problem encountered and corrected, problem for which no solution was found; or successful action noted for future operations.

Limiting Factor (LIMFAC)—Limiting factor that would limit the conduct of an inspection. LIMFAC examples are construction, special activities.

Master Scenario Events List (MSEL)—List of sequentially numbered events that direct exercises toward the desired objectives.

Players—All exercise participants other than controllers.

Ready Tiger—SPACEAF exercise.

Summary JULL—Reports submitted in JULLS format documenting general description, dates, location of operations and personnel, objectives, limitations, and major participants.

Team Meeting—SPACEAF level meeting used to plan exercises. Can be held in conjunction with scripting conferences.

Trusted Agent—Subject matter expert who provides input to exercise scenarios, creates implementers, and assists exercise planners in exercise development. Trusted agents may also be used as controllers.

Attachment 2

**EXERCISE PLANNING, EXECUTION AND EVALUATION CHECKLIST FOR SPACEAF
LEVEL EXERCISES**

A2.1. Use this guide to facilitate the exercise planning, execution and evaluation cycle. This guide covers publication of the SPACEAF exercise schedule through STARTEX to the actions required post ENDEX.

Table A2.1. Requirement for SPACEAF EXERCISES

REQUIREMENT FOR SPACEAF EXERCISES	OPR	COMMENT
January/April/July/October		
1. Publish SPACEAF annual schedule	SPACEAF/A57	Schedule is available from SPACEAF/A57 or on the SPACEAF SIPR-NET Website
Exercise - 120 Days		
1. Notify wings and units of exercise participation	SPACEAF/A5	
2. Review UTCs available for deployment	SPACEAF/A4, SWs and units	
3. Schedule exercise script building conferences. Send letter to wings and units concerning conference support if applicable	SPACEAF/A57, SWs and units	If SPACEAF schedules a concurrent Ready Tiger Exercise If SW schedule a concurrent exercise
Exercise - 90 Days		
1. Determine UTCs requiring deployment	SPACEAF/A4, SWs and units	
2. Publish script development timelines	SPACEAF/A57	
3. Plan script building conference	SPACEAF/A57, SWs and units	
Exercise - 60 Days		
1. Hold script building conference with Trusted Agents (TA)	SPACEAF/A57, SWs and units	
2. Determine unit SIM capability to include content tapes	SPACEAF/A57, SWs and units	
3. Begin unit SIM development (if no tapes are available)	SWs and units	
Exercise - 45 Days		

REQUIREMENT FOR SPACEAF EXERCISES	OPR	COMMENT
1. Hold first script review with TAs	SPACEAF/A57	
2. Send wing script to SPACEAF	SWs and units	
3. Script review and approval by SPACEAF/A5	SPACEAF/A5	
Exercise - 30 Days		
1. Hold second and third script review with TAs (more may be required)	SPACEAF/A57	
2. Final script review with SPACEAF/A5 prior to last script scrub	SPACEAF/A57	
3. Review unit LIMFACs as required	SPACEAF/A57	
4. Brief COMSPACEAF on unit script	SPACEAF/A57	
Exercise - 15 Days		
1. Finalize script -- Send script to wings	SPACEAF/A57	
2. Finalize messages for transmission	TAs	
3. Verify SIM media is in place at units	TAs	
Exercise - 7 Days		
1. Make input cards	TAs	
2. Distribute scripts	SPACEAF/A57	
Exercise - 2 Days		
1. Verify controllers phone numbers	SPACEAF/A57	
2. Conduct a test input among controllers	SPACEAF/A57	
3. Finalize last minute changes	All	
STARTEX		
1. Controllers control the exercise	All	
2. Ensure 24-hour per day manning to cover 24-hours a day for controllers	SPACEAF/A57	
ENDEX + 20 Days		
1. Wings and units ensure JULLS inputs completed	SWs and units	
ENDEX + 30 Days		
1. AFSPACE/A57 publishes SPACEAF After-Action Report	SPACEAF/A57	
2. AFSPACE/A57 briefs COMSPACEAF on lessons learned	SPACEAF/A57	

Attachment 3
SPACEAF EXERCISE PLANNING AND EXECUTION FLOWCHART

A3.1. This flowchart outlines the process used within SPACEAF to facilitate the exercise planning and execution. This flowchart covers the process from receipt to the order to STARTEX of the exercise.

Figure A3.1. Exercise Planning Flowchart.

